

# CALLEGUAS CREEK NITROGEN COMPOUNDS AND RELATED EFFECTS TMDL

## RESPONSIVENESS SUMMARY: GENERAL COMMENTS

No.	Commentator	Date	Comment	Response
01	Peer Review: Edward D. Schroeder University of California, Davis	07/22/02	1. Section 1.3: Description of the basin is very difficult to follow. A good map that is consistent with Table 1 would be very helpful	RWQCB staff agree-Figure 1 is inserted
			2. Units need to be consistent throughout the document and equation should be numbered	RWQCB staff concur and changes are made as requested
			3. Section 1.3.5: Depth to groundwater and nitrate concentration in groundwater were not described.	Depth to groundwater and nitrate concentration varies greatly in the watershed. It's not appropriate to go into detail about change in groundwater depth in this section. General terms are preferred to be used. More detail of these issues are discussed in TSD
			4. Section 2.2: Beneficial uses are assigned but not supported. Mugu Lagoon and Calleguas Creek are both listed as having the WARM beneficial use. Most coastal water are relatively cold	Mugu Lagoon is not listed for WARM beneficial use. A more detailed table (Table 9) was used to clearly define the primary use protected.
			5. DO objective (7mg/L) is not	The max DO concentration was displayed Table 4-3 instead of the

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			reasonable base on the data in Table 4-3 (mean DO concentration: 8.3mg/L) of the Technical Support Documents (TSD)	mean value. The correct mean DO concentration should be 7.26 mg/L. Therefore, the mean DO concentration was correctly used in the staff report
			6. Section 2.1.2.1. What is meant by typical pH and temperature ranges? There needs to be a much more explicit explanation of how the 3.8 mg/L value was developed. It's opaque to use range of values	A table of data on ammonia for reaches in the Calleguas Creek Watershed was inserted. These data were compared to the ammonia objective in the Basin Plan after adjusting for pH and temperature.
			7. Section 2.1.2.1: Are ambient stream concentrations above the objectives at present? Are the ambient stream concentrations above the objective below the POTWs?	Upstream of the treatment plants and in Revolon Slough, where there are no POTW discharges, ammonia objectives were not exceeded. Samples collected under CCCS and TOCS program exceeded ammonia objectives in reaches below POTWs.
			8. Section 2.1.2.2: "nitrogen is listed as impairing aquatic life beneficial uses." It is not clear that oxidized nitrogen fit this description	The term "nitrogen" was replaced by "nitrogen compounds"

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			9. Section 2.3.2.3: Staff documented the present of algae. How much? How often? and whether the algae is a real problem or not	The second paragraph was modified to incorporate the request. (refer to page 36, Staff Report)
			10. Section 2.2: The way in which the percentiles are defined should be described. Are the percentiles based on available records? How extensive are the records? Are the pH and temperature records for reaches below the POTWs or are they averaged for the creek?	A 95 <sup>th</sup> percentile pH value was calculated from all of the pH data. Use of this percentile is consistent with State Board Policy for Implementation of Toxics Standards for Inland Surface Waters, Enclosed Bays, and Estuaries of California (SWRCB, 2000a). The chronic criteria were calculated based on the average pH and temperature for the reaches using data for which both pH and temperature were available.
			11. Section 2.3.1, Table 9: Request to include the nitrification and denitrification capacity of the plants	Data are not available for all POTWs
			12. Section 2.3.1: Why were median and not average concentration used?	The use of median concentration accounts for the effect of data fluctuations from the POTWs that only nitrify their effluent.
			13. Section 2.3.2.2: An explanation for standard parameters is needed	RWQCB staff agree and a short paragraph is used to replace the term “standard parameter”

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			14. Section 2.3.2.2: The paragraph switches from oxidized nitrogen to ammonia	Revisions to Staff Report
			15. Section 2.3.2.2: The paragraph switches from oxidized nitrogen to ammonia	Revisions to Staff Report
			16. Section 2.4: The model used is a cascade of stirred tanks not a plug-flow model	Revisions to Staff Report
			17. Section 2.3: The expression for contaminant concentrations does not include the conversion term(s). The conversion terms drive the change in constituent concentration and without these term the models will not work.	Section 2.3.4 is added to address the conversion of organic nitrogen to ammonia. The amount of ammonia coming from the nitrogen conversion was estimated by using the conversion rate of 1 per day assumed in the model.
			18. Section 2.4: Both the flow and constituents models are steady state. Therefore, steady state should be recognized.	The steady state assumption used for the flow and the constituent models was documented in the first paragraph of section 2.4

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			19. Section 2.4.2: The discussion of critical conditions is not explained well enough to assess correctness. Definition of 30Q3 and 7Q10 need to be given and an explanation why 30Q3 was chosen	Definition of 30Q3 and 7Q10 were inserted as requested. The 30Q3 is equal to the 15-20 <sup>th</sup> percentile mean daily flow in the watershed. This mean that 80% of the time, the flow component of the margin of safety is greater than estimated and 20% of the time it is lower. To quantify the flow component of the margin of safety during the 20% of the time that the flows are lower than the baseline, a number of flows representing percentile below 20 were selected, and the margin of safety under these flow regimes was calculated.
			20. Section 2.4.3: The modeling scenarios used seem appropriate. As always with the models, the question is whether the modeling was done appropriately.	Yes, it was. The model was calibrated against the critical condition and monitoring data to verify its range of accuracy. Contaminant concentration results from modeling generally agreed with analytical results reported in Calleguas Creek Characterization Study within 20%
			21. Section 4.5.1, third paragraph: The paragraph reflects an incomplete understanding of the nitrification process.	A new paragraph was inserted which described the nitrification and denitrification process into more details
02	Larry Walker Associates	09/17/02	Ammonia: ➤ The acute and chronic ammonia	➤ The acute and chronic ammonia targets are recalculated based on

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			<p>target numbers in the TSD and Staff Report do not match. It is not clear where the deviation comes from</p> <ul style="list-style-type: none"> <li>➤ The TSD document proposed that the ammonia targets include a placeholder for an adjustment to the 1999 numbers due to a Water Effect Ratio (WER). The Regional Board did not explicitly include a placeholder for a WER value, but allowed for a WER study to be part of the implementation plan.</li> <li>➤ The Regional Board used their chronic target number and applied an addition 10% MOS to obtain the effluent limits. TSD sets the effluent limits equal to the target concentrations. TSD's MOS came from the assumption that the</li> </ul>	<p>Basin Plan Amendment – Ammonia Objectives in Inland Surface Waters (Section 5. Translation of Objectives into Effluent Limits, page 10). See the revised Staff Report</p> <ul style="list-style-type: none"> <li>➤ WER was addressed very early in the Development of Numeric Targets section. The estimated WER value of 2.9 results from prediction from only one specie. Additional species, such as sensitive fish species will also need to be evaluated and possibly tested to determine the ultimate WER and SSO. WER value, therefore, not recommended to be listed</li> <li>➤ Since there is significant uncertainty as to whether the TMDLs will result in attainment of the standards addressing algae and perhaps other listed stressors associated with nutrient loads, 10 percent MOS should be included.</li> </ul>

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			POTWs would have to meet the instream targets	
			<p>2. Oxidized Nitrogen</p> <ul style="list-style-type: none"> <li>➤ The Regional Board document includes separate effluent limits for Nitrite-N and Nitrate-N, and WLAs for Nitrite-N, Nitrate-N, and Nitrite-N + Nitrate-N. TSD only proposed a total Nitrite-N + Nitrate-N</li> <li>➤ The Regional Board calculated WLAs in lb/day based on the design capacity of each POTW. TSD expressed WLA in term of the effluent limit multiplied by variable discharge flow from the POTWs</li> <li>➤ The Regional Board set oxidized nitrogen load allocations for agriculture on Revolon Slough and Arroyo Las Posas only. TSD</li> </ul>	<ul style="list-style-type: none"> <li>➤ Separated WLAs are set for Nitrite-N, Nitrate-N, and Nitrite-N + Nitrate-N as required in the Basin Plan.</li> <li>➤ The WLAs are calculated based on the design capacity to eliminate the variable discharge flow from the POTWs.</li> <li>➤ RWQCB staff agree – See revised Staff Report</li> </ul>

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			<p>imposed load allocations for agriculture in each reach of the watershed.</p> <ul style="list-style-type: none"> <li>➤ The Regional Board calculated a load allocation on unknown flow for Revolon Slough and Arroyo Las Posas. TSD's load allocations were set equal to the target concentration of 10mg/L Nitrite-N + Nitrate-N</li> <li>➤ The Regional Board is allowing four years (from the effective date of the TMDL) to construct the necessary denitrification facilities to achieve compliance with oxidized nitrogen limits. TSD estimated seven years for construction of facilities.</li> <li>➤ The Regional board is giving POTWs interim concentration limits</li> </ul>	<ul style="list-style-type: none"> <li>➤ The load allocations for Revolon Slough and Arroyo Las Posas are calculated based on the estimated flows from agriculture in Revolon Slough and other agricultural drains in the lower Calleguas watershed (refer to the model in TSD)</li> <li>➤ RWQCB staff maintain that the proposed four-year period for construction is appropriate. The proposed schedule is based on information provided by the POTWs and on estimates in the Technical Support Document in which the planning tasks (planning, CEQA, finance, and design) are assumed to be conducted concurrently and take two years. The construction of capital improvements is assumed to follow the planning tasks and is also scheduled for two years</li> <li>➤ RWQCB staff agree – See revised Staff Report</li> </ul>



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			based on median effluent concentrations. LWA requested that the limits should be based on 99 <sup>th</sup> and 95 <sup>th</sup> percentile for the maximum daily and average monthly according to EPA TSD	
			<p>3. Algae and Dissolved Oxygen</p> <p>➤ No numeric targets or associated limits are included in the TMDL. TSD cited a maximum algal biomass preliminary target of 150 mg/m<sup>2</sup> chlorophyll a, based on literature.</p>	<p>➤ This TMDL establishes additional studies to determine if the nitrogen compound targets are sufficient to eliminate the related effect impairments, such as algae and DO, in Calleguas Creek. If the proposed targets do not eliminate related effect impairments, the additional studies will provide data to support development of a site-specific objective for nitrogen in Calleguas Creek for consideration by the Regional Board.</p>
03	EPA	10/04/02	1. TMDLs must more clearly address each 303(d) listed segments and listed pollutants	The staff report is revised to include a table which details the relationship in the current 303(d) list, consent decree, and this TMDL.
			2. TMDLs must meet existing water quality standards for all listed	The water quality standards for listed pollutants include numeric objectives for ammonia, nitrite, nitrate, nitrate+nitrite, and narrative

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			pollutants.	standards for algae and organic enrichment. The TMDL is structured to meet all existing standards for pollutants with numeric objectives. The TMDLs represent a significant reduction in nitrogen compounds from POTWs and nonpoint sources such as agriculture. Regional Board staff assess that such reductions in nitrogen compound loading will lead to reductions in instream algae and organic enrichment concentrations that are related to nitrogen compound concentrations. The TMDL provides special studies and watershed monitoring to confirm that nitrogen reductions will effect attainment of applicable narrative standards for algae and DO. The TMDL also provides a reevaluation to revise the WLAs if the nitrogen reductions do not result in attainment of water quality standards for algae and organic enrichment
			3. TMDL must address all major sources.	The TMDL addresses all POTWs and the major nonpoint sources, including agricultural sources. Regional Board staff assess that these sources will be sufficient to implement the existing water quality standards. However, if the special studies indicate that the source analysis is not complete, then additional studies will be available to base revised load allocations.

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			4. Margin of Safety	Because the TMDL analysis includes WLAs based on critical conditions of low assimilative capacity, the 10% explicit MOS is considered appropriate.
			5. Critical conditions	Dry weather conditions are assessed to be critical conditions because the flow rate and assimilative capacity are much lower than during wet weather events. The TSD provides the data to support this assessment.
			6. Future Growth	The WLAs are concentration based. For illustrative purposes, the mass based WLAs are provided to support RB Staff's contention that reduction in nitrogen compound loading will attain the water quality standards.
			7. The Regional Board should more clearly explain the correlation among the 303(d)-listed segments, consent decree segments and the TMDL segments.	RWQCB staff agree – See revised Staff Report
			8. Page 7 mentions limited data about Mugu Lagoon, and suggests that part of the TMDLs won't be developed	The purpose of this section is to show that further studies should be done to demonstrate the related nutrient effects such as DO and algae growth in Calleguas creek including Mugu Lagoon. As Mugu Lagoon

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			until the implementation phase. The Regional Board must be clear whether the Mugu Lagoon is covered by these TMDLs	is listed on the 303(d) list of impaired water bodies, it is covered by this TMDL.
			9. In the proposed 2002 303(d) list (April 2002), nitrate and/or nitrite in Calleguas Creek R4, R6, R9A and R10 are new additions to the 1998 303(d) list. The Regional Board needs to clarify whether these waterbody/pollutant combinations are included in these TMDLs	As stated in sections 1.1 and 1.2 of the Staff Report, this TMDL is based on 1998 California 303(d) list.
			10. Clarify that the specific allocations are set in terms of nitrogen compounds but are set at levels sufficient to result in attainment of related water quality standards addressing algae and other related stressors included on the 303(d) list.	RWQCB staff agree – See section 2.5.1 of the revised Staff Report

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			Please clarify that the TMDLs address all pollutants listed on the 303(d) list and the consent decree.	
			11. The Basin Plan Amendment on page 6 states, "Numeric targets to address narrative objectives required to protect warm freshwater and wildlife habitat will be developed during the implementation period of this TMDL." Please clarify this language to indicate that the targets developed to address the narrative objectives are believed to be sufficient to implement these narrative objectives but may be revisited and revised based on the results of monitoring and studies conducted pursuant to the implementation plan.	RWQCB staff agree – The Staff Report is revised to reflect these comments
			12. Clarify the basis for the pH target.	RWQCB staff agree – See the revised Staff Report

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			13. Page 59 indicates the model was used to estimate the effects of load reductions on algae and DO. Please discuss the model and its application for this purpose in greater detail.	RWQCB staff agree – See the revised Staff Report
			14. To the extent that any significant nonpoint sources are not addressed by the draft TMDL, load allocations should be established for them in the final TMDL decision	Nutrient loads from sources are not addressed in this TMDL will be verified through special studies during the implementation.
			15. Please clarify that urban stormwater regulated under the NPDES program is a point source, and also clarify the waste load allocation for this source if it is a major source as implied on p. 47.	RWQCB staff agree – See the revised Staff Report, section 2.3.1.2
			16. Page 50 indicates that groundwater is a significant source in two areas,	The implementation plan addresses this source with special studies to assess if groundwater discharge is responsible for the elevation of the

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			but there is no allocation for it. Please clarify the load allocations to groundwater or explain why they are unwarranted.	surface water concentrations. The recommended studies should also quantify the contributions of septic, winter urban-runoff, agriculture, and waste treatment discharge sources. See revised Staff Report, section 2.3.2.3
			17. Please clarify how the allocations were done. It is not clear whether (1) there is a calculation of loading capacity and the LC was divided into allocations, (2) each source receives an allocation designed to meet the concentration target for its receiving water location, or (3) some other method was used. Also, please clarify how the LAs for agricultural runoff are calculated.	Section 2.5.1 of the Staff Report was revised to address the issues. For agriculture runoff, the LAs are concentration based.
			18. Page 68 table 21 indicates that there is a LA of 12.8 lbs/day for ammonia-N. This LA is mentioned in the source analysis section of the TMDL	Section 2.5.2 of the Staff Report was changed to address the issue. The load allocations for Revolon Slough and Arroyo Las Posas are calculated based on the estimated flows from agricultural in Revolon Slough and other agricultural drains in the lower Calleguas watershed

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			but was not discussed in the LA section. Please clarify this allocation.	in the TSD. Load allocations are concentration based
			19 It is unclear how the 10% explicit MOS was applied. Page 66 indicates the “instream” acute and chronic criteria were reduced 10% from the original criteria. Page 62 indicates the effluent limits include an explicit MOS of 10%. Please clarify whether these statements mean the same thing	RWQCB staff agree – See the revised Staff Report
			20. The Regional Board needs to be clear whether the mass balance model (linkage analysis) loadings is based on the design flow or the average flow	The loading is based on the average flow in the mass balance model (See section 2.3.1.4)
			21. Basin Plan Amendment - The Regional Board must clarify whether the TMDLs and allocations are concentration based or mass based	Waste load and load allocations are concentration based. For illustrative purposes, the mass based allocations are provided to indicate the level of mass reduction required by this TMDL - See the revised Staff Report



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			22. The statement on BPA page 7 that BMPs are proposed to meet LAs is misleading. EPA suggests the Regional Board state that there is numeric LAs and that in the implementation plan, BMPs are proposed to meet them.	RWQCB staff agree – See the revised Staff Report
04	City of Thousand Oaks	10/07/02	1. An implementation schedule is required to meet the ammonia objective	<p>The comment from City of Thousand Oaks on this issue does not fully reflect Regional Board Resolution 97-10 and the Order 97-123.</p> <p>Section 1, 2 and 3 of Resolution 97-10 provided:</p> <p>“1) In order to provide time needed for Calleguas Creek POTWs to complete CCCS and to identify viable alternatives to limits that are based upon water quality objectives in the Basin Plan ...  provided that these POTWs meet conditions set forth in paragraph (2) below.</p> <p>2)The conditions that Calleguas Creek POTWs must meet in order to be eligible for the relief from compliance with ammonia, nitrite, nitrate limits are as follows:</p> <p>....</p>

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				<p>c) POTWS must decide, before June 13, 2002, how they will achieve compliance with WQOs for ammonia, nitrite, and nitrate. Strategies for achieving compliance, such as ... <b>will be subject to approval from the Regional Board, and must be documented in the permit revisions by June 13, 2002.</b></p> <p>3) In the event that these POTWs do not meet conditions in paragraph (2) above, <b>more stringent limits and time schedule immediately become operative.</b></p> <p>The city of Thousand Oaks also ignores important parts such as item ii ) of section 1, and foot note 6 of section 2 in the Revised Permit, Order No. 97-123:</p> <p>Item ii):</p> <p>“Based upon theses site specific WQOs, develop recommendations for cost-effective solution to attain these objectives, which may include: wastewater treatment plant upgrades, alternative treatment technologies, or alternative management strategies.</p> <p>Agreement to alternatives <b>to meet the ammonia objective, such as a site specific objective, must be incorporated into the permit by</b></p>

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				<p>June 13, 2002.”</p> <p>Footnote #6:</p> <p>“ Relief from compliance with this limitation is subject to condition set forth in Regional Board Resolution No. 97-10....”</p> <p>Furthermore, in Status Report on POTWs’ progress toward compliance with inland surface water ammonia objectives to protect aquatic life on May 31, 2001 (Regional Board Hearing, Item 7), Regional Board staff had recommended that since POTWs were aware of the compliance deadline in 1994, and were given up to 8 years to come into compliance, the deadline of June 13, 2002 would not be changed</p> <p>This TMDL acknowledge that as POTWs implement nitrification processes to comply with the ammonia objective, additional oxidized nitrogen will be generated in the POTW effluent. Several of the POTWs in the Calleguas Creek watershed will require additional time to meet the oxidized nitrogen (nitrate, nitrite, and nitrate + nitrite) WLAs. To allow time for completion of denitrification facilities which are integral to this TMDL, the amendment to the Basin Plan</p>

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				that includes this TMDL allows for higher interim limits.
			2. The ammonia WLA appears to be based upon the incorrect objective	The WLAs are recalculated based on Resolution 02-011 – Ammonia Objectives in Inland Surface Waters (Section 5. Translation of Objectives into Effluent Limits, page 10). The maximum daily effluent limitation (MDEL) and average monthly effluent limitation (AMEL) were calculated by multiplying the lowest long-term average discharge condition ( $LTA_{min}$ ) with the MDEL and AMEL multipliers, respectively. The MDEL and AMEL multipliers can be found in Table 3-7 of the amendment using the coefficient of variation and monthly sampling frequency of ammonia in the effluent.
			3. The TMDL must include an Ammonia WER now, or explicitly provide application of a final site specific WER	Paragraph 2 of Section 2.2 was changed to clearly stated that a SSO based on a WER for ammonia would be implemented as a Basin Plan Amendment that would amend both the Basin Plan and this TMDL.
			4. The interim oxidized nitrogen limits will result immediate no-compliance. The interim oxidized nitrogen limitation should either be deleted from the TMDL altogether,	The monthly average and daily maximum interim limits are recalculated and based on the 95 <sup>th</sup> and 99 <sup>th</sup> percentiles of effluent performance data reported in the Calleguas Creek Characterization Study

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			or replaced with limitations calculated based upon the projected maximum effluent concentration.	
			5. The lack of resolution of algae issues create continuing uncertainty for POTWs. Algae studies should commence after the current spate of POTW improvements are completed and operational. The POTWs will have removed their share of the nitrogen contribution to the system.	Since there are insufficient data available to determine the limiting factor including nitrogen that would directly affect the algae growth in the watershed, additional studies are required to determine if the nitrogen compound targets are sufficient to eliminate the related effects impairments, such as algae, in Calleguas Creek. If the proposed targets do not eliminate related effect impairments, the additional studies will provide data to support development of a site-specific objective for nitrogen in Calleguas Creek for consideration by the Regional Board. Paragraph 4 of Section 2.2 was changed to address the issue
			6. Aquatic plant growth is normal and naturally occurring in aquatic systems, especially in warm water streams. The Staff Report should acknowledge this fact. (page 10)	Regional Board recognize that there are several factors causing algae growth including nutrient, light availability, temperature, flow levels, growing surface, bedrock type and elevation, control levels of macrophytes, periphyton, and phytoplankton in waters. However, the most likely method of controlling algae may be reducing nutrient (nitrogen and phosphorus)

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			7. What are the future regulatory implications, if any, of the stream reach designations used for purposes of the TMDL? (page 21)	As stated in the draft TMDL, these reach designations provide greater detail than the designations in the current Basin Plan, and are developed for purposes of this TMDL. The draft TMDL also stated that the reach revision may provide an appropriate analytical tool for future analyses in the watershed. At this time, the reach revisions are not regulatory and do not alter water quality objectives for the reaches in the existing Basin Plan.
			8. The Staff Report appears to be applying the 10 mg/L nitrate + nitrite number to reaches with conditional designation. Such conditional designations are not recognized under federal law and are unenforceable. (page 21)	The Basin Plan provides that surface <b>water</b> shall not exceed 10 mg/L nitrogen as nitrate-nitrogen plus nitrite-nitrogen ( $\text{NO}_3\text{-N} + \text{NO}_2\text{-N}$ ), 45 mg/L as nitrate ( $\text{NO}_3$ ), 10 mg/L as nitrate-nitrogen ( $\text{NO}_3\text{-N}$ ), or 1 mg/L as nitrite-nitrogen ( $\text{NO}_2\text{-N}$ ) or as otherwise designated in Table 3-8, which will be equal or lower than the general limits listed above and not to exclude the conditional designations.
			9. Footnote #2 states HCTP has implemented nitrification. HCTP has implemented interim and temporary facilities and process revisions to “push” nitrogen	RWQCB staff agree and the footnotes are changed to reflect the issues in the revised Staff Report.

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			removal. It has not completed construction of the capital facilities required for complete and reliable nitrification and denitrification.	
			10. What is the contribution of nitrate-nitrite from septic tanks in the watershed? Is this <i>di minimis</i> or unquantifiable	The septic tank issue was addressed in section 2.3.2.3, where special studies was recommended to quantify the contributions of septic, winter urban-runoff, agriculture, and waste treatment sources.
			11. The mass loading value appears to be calculated based upon a flow of 9.72 MGD. The current design flow of the HCTP is 10.8 MGD, and the ultimate design capacity (effective December 2004) is 14 MGD. The same extension for oxidized nitrogen loading.	The mass loading value was calculated based on the current design flow which is 16.7cfs or about 10.8 MGD. The numeric targets and waste load allocations for POTWs with increasing capacity or new POTWs will be set on a concentration basis.
			12. The Staff Report says that median values were used to develop chronic criteria. Elsewhere in the Staff	In the Staff Report, the median concentrations and average flows were used to calculate the ammonia, nitrate, and nitrite loads from point and non point sources.

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			Report, it is represented that average values were used. Average values are correct. The Staff Report needs to be clarified.	
			13. Using Moorpark as a construction cost basic that can be extrapolated to HCTP is incorrect and inappropriate.	The Staff Report already acknowledges that Moorpark is a treatment plant with percolation ponds and different processes from most of the other treatment plants, and that the cost estimates for other plants may not be specifically applicable.
05	The County Sanitation Districts of Los Angeles County (District)	10/15/02	1. Some of the numerical targets are inappropriately set.	The maximum daily and average monthly effluent limit are recalculated using the updated standards and implementation plan (See attached Basin Plan Amendment, Resolution 02-011).
			2. The daily maximum limits for nitrite and nitrate are inappropriately justified by a questionable link to a groundwater recharge beneficial use that is not applicable	The limits are based on the Regional Objective for Inland Surface Waters on page 3-11 of the Basin Plan.
			3. The Basin Plan Amendment fails to	Load allocations for nonpoint sources was included in the Staff Report



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			include any quantifiable load allocations for nonpoint sources, nor does it clearly state that the TMDL will be modified to reflect the expected load reductions achieved through the construction of TMDL remedies to reduce non-point source nitrogen loads, which are called for in the Implementation Schedule 3 years after the Effective Date of the TMDL	and the Basin Plan Amendment has been revised in accordance with the Staff Report.
			4. To our knowledge, studies characterizing the limiting factors have not been done in the watershed, to determine the extent to which this relationship is valid	The Staff Report included references to general relationship between nitrogen compound and related effects. Further explanation is added to section 2.2 of the revised Staff Report to address the issue.
			5. The TMDL contains seemingly random and overlapping margins-of-safety. For instance, the TMDL does	As clearly stated in the Staff Report, the margin of safety includes both implicit and explicit components. Future growth is discussed separately in section 2.8. The numeric targets and WLAs for POTWs

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			not account for future growth beyond current treatment plant design capacity.	with increasing capacity or new POTWs will be set on a concentration basis to meet instream water quality standards.
			6. While recognizing that storm events result in more assimilative capacity for waterbodies in the Calleguas Creek Watershed, the TMDL doesn't draw the consequent conclusion that the numeric targets should not be applicable during or for a period after storm events	Staff disagree with the consequent conclusion. Water quality objectives should be met at all times
			7. The ammonia objectives in this TMDL originate from the USEPA's 1999 Update of Ambient Water Quality Criteria for Ammonia (USEPA's Criteria Document; however, the proposed TMDL doesn't properly translate the objectives into limits.	The ammonia objectives have been revised in accordance with Regional Board Resolution 02-011. These objectives originate from US EPA's Criteria Document. The objectives are translated into effluent limits in accordance with the Implementation section of Resolution 02-011.
			8. Interim limits are calculated and prescribed for nitrite+nitrate, but not for ammonia.	The Basin Plan provides a criteria specific objective for ammonia, but not nitrate. Consequently, interim limits were provided for nitrogen but not ammonia

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			9. The daily maximum limits for nitrite and nitrate are inappropriately justified by a questionable link to a groundwater recharge (GWR) beneficial use that is not applicable.	The daily maximum limits are for nitrate and nitrite are based on water quality objectives provided in the Basin Plan, not GWR.
			10. Of the two reaches with allocations, the allocation for the Revlon Slough is 230 lb/day, compared to a current load of 870 lb/day, and the allocation for Arroyo Las Posas is 6lb.day, compared to a current load of 500 lb/day.	Allocations for non-point source are revised to concentration-based loads. The mass-based load information based on the Technical Support Document
			11. The Groundwater Recharge use Designation. A TMDL cannot be based on water quality standards that are not applicable.	<p>Groundwater recharge (GWR) is a beneficial use designated for Inland Surface Waters, including the Calleguas Creek, in the Water Quality Control Plan, Los Angeles Region (Basin Plan). The Basin Plan defines groundwater recharge as:</p> <p>“Uses of water for natural or artificial recharge of ground water for purposes of future extraction, maintenance of water quality, or halting seawater intrusion into freshwater aquifers.”</p> <p>The hydrodynamics of the Calleguas Creek watershed supports the GWR designation of the Calleguas Creek as an existing beneficial use.</p> <p>Because the State has designated GWR as a beneficial use for the Calleguas Creek, the use becomes a federally recognized (and hence enforceable) "state water quality standard." Consequently, GWR is a beneficial use that the TMDL must protect.</p>

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			12. What the Staff Report fails to reflect is that the Technical Support Document (TSD) found that the Calleguas Creek Watershed essentially may not be impaired due to algae. The TSD states on page 4-20 that "The information used to develop the algae 303(d) listings did not provide any quantification of algal biomass, nor a threshold by which to measure nuisance.	Staff disagrees with CSDLAC implication that because algae quantification is not complete, the presence of algae is undocumented and there is no algae impairment. The TSD in pages 4-3 through 4-4, as well as recent observations of Calleguas Creek and Mugu Lagoon by Regional Board staff, find significant presence of algae in Calleguas Creek.
			13. Several statements in the Staff Report regarding the relationship between nitrogen compounds and other effects (i.e., algae growth and low dissolved oxygen) are contrary to the findings reported in the Technical Support Document, and should therefore be changed to agree with the TSD or be individually justified.	The statements regarding the relationship between nitrogen compounds and other effects in the Staff Report and Technical Support Document are complementary, not contradictory. The Implementation Plan provides for a watershed-wide study of algae.
			14. The allocations in the TSD were derived as if the POTW effluent represented the only flow in the watershed.	The allocations are based on a low-flow scenario with an explicit margin of safety.

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			15. The Staff Report is also proposing an additional explicit margin of safety of 10%. This is beyond what is recommended in the Technical Support Document for the TMDL and there is no justification or explanation provided for the necessity of this margin of safety.	The allocations are based on a low-flow scenario with an explicit margin of safety. The explicit MOS is based on a level of uncertainty in the underlying science linking nitrogen concentrations to their effects such as algae and organic enrichment
			16. To account for future growth beyond current treatment plan design capacity, the TMDL should only specify concentration limits.	RWQCB staff agree. See revised tentative Basin Plan Amendment.
			<u>17.</u> The TMDL should provide relief from daily maximum limits during storm events and for a period after until the biological processes have recovered.	Stakeholders have not provided sufficient evidence of this effect in order to Regional Board to draft findings to support this statement.
			<u>18</u> <del>7</del> . The TMDL itself is a rule requiring compliance with the federal Administrative Procedures Act (APA).	The Regional Board staff concurs that the TMDL is a rule subject to formal APA requirements. However, the TMDL is being adopted pursuant to the Porter-Cologne Water Quality Control Act as a provision of state law. Neither the Clean Water Act, nor its implementing regulations, require state basin plan amendments or state-adopted TMDLs to be adopted pursuant to the federal APA. In contrast, when provisions of federal law are applicable to the states exercising in lieu authority, the Code of Federal Regulations explicitly states the federal requirement. (See, 40 C.F.R. 130.1; see also 40

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				<p>C.F.R. 123.25 (for permitting).)</p> <p>As more fully explained in an October 15, 2002, letter from Regional Board counsel to counsel for the CSDLAC the Regional Board's formal rulemaking authority is contained in Government Code section 11353. When the Regional Board exercises formal rulemaking under Government Code section 11353 and amends its Basin Plan to incorporate the TMDL, it is complying with the applicable provisions of the APA. The Office of Administrative Law will be reviewing the Basin Plan amendment and will be reviewing the amendment with particular attention to the clarity standard.</p> <p>The regulatory provisions of the TMDL are contained in the Basin Plan amendment. The staff report is not regulatory in nature, although it provides the foundational support for the basin plan amendment.</p>
			198. POTW stands for Publicly Owned Treatment Works, Also, “ The status report indicated that Camarillo....”	RWQCB staff agrees – changes to be made on revised Staff Report
			2049. The limits shown in Table 4 do not apply to the watershed per the Basin Plan. The basin Plan specifically states that the Calleguas Creek above Potrero Road, an objective of 10 mg/L for nitrite and nitrate is applicable. No individual objectives for nitrate and nitrite	Staff disagrees – the Basin Plan provides a criteria specific objectives for nitrogen compounds

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			beyond the combined objective of 10 mg/L is supported by the Basin Plan.	
			219. Is this percentage calculated using the updated ammonia criteria (1999).	Yes
			224. Please define what is meant by the “cascade of stirred tanks approach?”	Please refer to Peer Review’s comment, item 16.
06	City of Simi Valley (City)	10/11/02	1. A time schedule for the City to comply with the ammonia waste load allocation.	POTWs including Simi Valley WQCF were aware of the compliance deadline in 1994, and were given up to 8 years to come into compliance.
			2. Ammonia Waste Load Allocations - Regional Board Staff has not clearly explained how it arrived at a proposed WLA of 1.35 mg/L for the City.	The WLAs are recalculated based on Basin Plan Amendment – Ammonia Objectives in Inland Surface Waters (Section 5. Translation of Objectives into Effluent Limits, page 10). The maximum daily effluent limitation (MDEL) and average monthly effluent limitation (AMEL) were calculated by multiplying the lowest long-term average discharge condition (LTA <sub>min</sub> ) with the MDEL and AMEL multipliers, respectively. The MDEL and AMEL multipliers can be found in Table 3-7 of the amendment using the coefficient of variation and monthly sampling frequency of ammonia in the effluent.
			3. Nitrogen compound objectives – Nitrite-N + Nitrate-N objective should be based on a flow-weighted annual average	RQWCB disagree – Nitrite-N + Nitrate-N objective should be met at all time to protect beneficial uses.
			4. The City request removal of a Waste Load allocation for Nitrite-N and inclusion of Nitrite-N + Nitrate-N limit of 10 mg/L instead.	RWQCB staff disagree. Refer to the Basin Plan, Regional Objective for Inland Surface Waters.

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			<p>6. Amendment to the Basin Plan – Since the Regional Board is in the process of amending the Basin Plan, this is the appropriate time to correct errors and omissions the exist within the Basin Plan. During the Basin Plan Planning process of 1994, in establishing the beneficial uses and corresponding numerical objectives of the Calleguas Creek Watershed, the following two major errors were made:</p> <ul style="list-style-type: none"> <li>➤ The omission of footnote (a) for TDS, Chloride, Sulfate, Boron, and Nitrogen compounds, as provided in the 1975 Basin Plan.</li> <li>➤ Arroyo Las Posas, Designation of Potential Cold Water Reach (COLD). It is impossible for this reach to ever qualify for the designation of COLD beneficial use.</li> </ul>	The TMDL address existing standards. These issues are not addressed in this TMDL.
07	Camarillo Sanitary District	10/11	<p>1. The Staff Report propose that the interim limit for nitrate (I believe the actual intent is to represent nitrate+nitrite) be set at the median of samples for total nitrogen. For our district, the interim limit is proposed at</p>	RQWCB staff agree – The interim limits are recalculated based on the 95 <sup>th</sup> and 99 <sup>th</sup> percentile of the concentration data for ammonia, nitrate-N, and nitrite-N reported in the Calleguas Creek Characterization Study for monthly average and daily maximum interim limits. These interim limits will apply to nitrate-N + nitrite-N.



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			30.88 mg/L. The proposed interim objective is unattainable. I hope that your Board will acknowledge and understand the need to set the interim limits at levels to facilitate cooperation and compliance by all the municipal dischargers with the proposed basin plan amendment and TMDL.	